REMARKS

The title has been changed at page 1 and on the Abstract page to make it correspond to the title given on the Declaration and Assignment signed by the inventors. A new Abstract page is included herewith.

The specification has been amended at pages 1 and 2 to insert the headings "BACKGROUND OF THE INVENTION", "SUMMARY OF THE INVENTION", "BRIEF DESCRIPTION OF THE DRAWING" AND "DETAILED DESCRIPTION OF THE INVENTION".

The specification has been amended at page 2, lines 1-3 to recite the basis for the 3-30 wt% recited.

The specification has also been amended at page 2 to insert a description of Figure 1. Support for this description is found at page 11, lines 1-2 of the specification.

The specification has further been amended at page 2 to change "consisting of" to "composed of" to make this section of specification consistent with the remainder of the specification and the claims.

Claims 1-10 have been cancelled.

New Claim 11 corresponds substantially to original Claim 1.

New Claim 12 corresponds substantially to original Claim 2.

New Claims 13 and 14 are directed to the subject matter of original Claim 3.

New Claim 15 corresponds substantially to original Claim 4.

New Claims 16 and 17 are directed to the subject matter of original Claim 5.

New Claim 18 corresponds substantially to original Claim 6.

New Claim 19 corresponds substantially to original Claim 7.

New Claim 20 corresponds substantially to original Claim 8.

New Claim 21 corresponds substantially to original Claim 9.

New Claim 22 is directed to flexible tubing, one of the embodiments of the invention as claimed in original Claim 10.

The Abstract has been revised to place it in better form.

Entry of this Amendment and an action on the merits of this case are respectfully requested.

Respectfully submitted,

By _____
Lyndanne M. Whalen
Attorney for Applicants
Reg. No. 29,457

Bayer Corporation
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-8347
FACSIMILE PHONE NUMBER:
(412) 777-8353

s:/sr/lmw0227

VERSION WITH MARKINGS TO SHOW CHANGES MADE:

IN THE TITLE:

At page 1, line 1, the title has been deleted and the following new title inserted therefor: - -POLYUREA POLYURETHANES HAVING IMPROVED PHYSICAL PROPERTIES- -.

IN THE SPECIFICATION:

At page 1, line 3, - - BACKGROUND OF THE INVENTION- - has been inserted.

At page 2, above line 1, - - SUMMARY OF THE INVENTION- - has been inserted.

At page 2, lines 1-3, the text has been amended as follows:

It has now been found that the addition of only 3 to 30 wt.%, based on total weight of polyether polyol component A1) and polyester polyol component A2), of specific polyesterpolyols to known polyetherpolyurethanes greatly improves their resistance to swelling in oil and petrol.- -

At page 2, line 4, the following has been inserted:

- - BRIEF DESCRIPTION OF THE DRAWING

Figure 1 is a graph of the results of the sterile hydrolysis test conducted on specimens aged at 70°C and 95% relative humidity for a period of 7-14 days.

DETAILED DESCRIPTION OF THE INVENTION- - .

At page 2, lines 27-29, the text has been amended as follows:

- -Polyetherpolyol component A1) has a number average molecular weight of 1000 to 8000 g/mol and has a hydroxyl functionality of 2.0 or is substantially a mixture with an average hydroxyl functionality of 2.02 to 2.95[, consisting of] composed of- -

At page 7, lines 15-17, the text has been amended as follows:

- -The grades of PUR obtained are suitable in particular for preparing soles of shoes which comply with safety shoe standard EN 344, but may also be used for wheels, rollers, flexible tubing and [tyres]tires due to their ability to withstand a high degree of stress.- -

IN THE CLAIMS:

Claims 1-10 have been cancelled and the following new Claims 11- 22 have been added:

- -11. A process for the production of oil and petroleum-resistant (polyurea)polyurethanes comprising reacting a mixture comprising

A1) a polyether polyol component having a number average molecular weight of from 1000 to 8000 g/mol,

A2) from 3 to 30 wt.%, based on total weight of components A1) and A2), of a polyester polyol component having a number average molecular weight of from 1000 to 6000 g/mol,

B) a polyisocyanate component,

C) a chain extending agent,

and optionally,

D) a blowing agent and/or

E) an activator, auxiliary substance or additive

at an isocyanate index of from 70 to 130.

12. The process of Claim 11 in which the polyester polyol component comprises

(1) from 20 to 47.3 mol% of units derived from adipic acid,

(2) from 0-20 mol% of units derived from glutaric acid,

(3) from 0 to 10 mol% of units derived from succinic acid,

(4) from 10 to 30 mol% of units derived neopentyl glycol,

(5) from 10-30 mol% of units derived from hexanediol,

(6) from 0-15 mol% of units derived from ethanediol,

and (7) from 10-20 mol% of units derived from butanediol.

13. The process of Claim 12 in which the polyester polyol component is included in the polyisocyanate component.

14. The process of Claim 11 in which the polyester polyol component is included in the polyisocyanate component.

15. The process of Claim 11 in which the polyether polyol component, polyester polyol component, chain extending agent, any blowing agent and any activator, auxiliary substance or additive are combined before being reacted with the polyisocyanate component.

16. The oil and petroleum-resistant (polyurea)polyurethane of Claim 12.

17. The oil and petroleum-resistant (polyurea)polyurethane of Claim 11.

18. The (polyurea)polyurethane of Claim 17 which is transparent.

19. The (polyurea)polyurethane of Claim 17 which is resistant hydrolysis and microbial action.

20. A shoe sole composed of the (polyurea)polyurethane of Claim 17.

21. Safety clothing produced from the (polyurea)polyurethane of Claim 17.

22. Flexible tubing produced from the (polyurea)polyurethane of Claim 17.- -

IN THE ABSTRACT:

The Abstract page has been amended as follows:

-- POLYUREA POLYURETHANES HAVING IMPROVED PHYSICAL PROPERTIES[Polyurethanes with improved physical properties].

[The invention provides a] A process for preparing oil and petroleum-resistant cellular to solid (polyurea)polyurethanes (PURS) with improved physical properties[,] in which a polyether polyol component having a number average molecular weight of from 1000 to 8000 and a polyester polyol component having a number average molecular weight of from 1000 to 6000 are reacted with a polyisocyanate and the (polyurea)polyurethanes produced by that process. [such as are required, for example,] The (polyurea)polyurethanes are particularly useful for personal safety equipment and in the construction of automobiles.